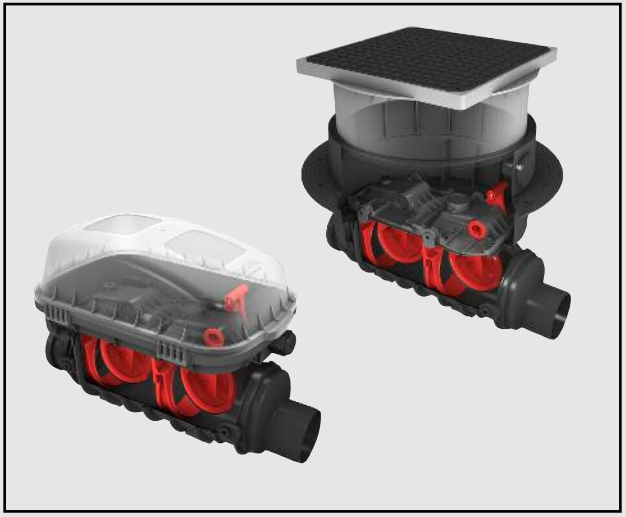
INSTALLATION AND OPERATING MANUAL

KESSEL - *Staufix® SWA* Backwater Valve for wastewater with or without sewage
KESSEL-*Controlfix®* Clean-Out



Product Advantages:

- **For wastewater with or without raw sewage**
- **For installation in exposed or concrete slab piping**
- **Self closing backwater flap during backwater / flooding** (depending on model)
- **Also for use as clean-out for pipe access and inspection**
- **Staufix® SWA for in the floor installation (concrete slab) offers vertically adjustable, twistable and tiltable upper section for easy installation**
- **Upgradable to KESSEL Staufix® FKA automated backwater valve and KESSEL Pumpfix F backwater valve with integrated sewage pump**
- **Offers full channel wastewater passage**
- **Simple maintenance and service**

DIN EN 13564 Type 2

☐ **Installation** ☐ **Commissioning** ☐ **Training**

This system was installed and commissioned by the following service company:

Name / Signature Date Location Company stamp

KESSEL

Edition 02/2011
Nr. 010-841EN
Subject to technical amendments

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1. General

Dear Customer,
Before installing and commissioning this KESSEL Staufix® SWA or Controfix® , please thoroughly read through this manual and follow all instructions!

Please make sure that nothing was damaged during the shipment of this item. In case damage did occur during the shipment please go to Section 5 - Guarantee

1.1 Application of the *Staufix® SWA*

The KESSEL Staufix® SWA backwater valve is designed to be installed in wastewater drainage pipes with or without raw sewage. The backwater valve prevents wastewater from backing up the drainage pipe during backwater / flooding. The SWA should be kept in good operating condition and should be accessible at all times. During normal conditions the backwater flap is in the vertical, free handing position. Wastewater draining out of the building pushes the flap open and is allowed to flow through the SWA and out of the building. The SWA is equipped with a manual flap locking valve which can be used to fully lock the flap shut – allowing no wastewater in either direction to pass through the valve. In the case that the drainage pipes connected to the Staufix® SWA will not be used over extended periods of time it is recommended that the flap is securely locked with the locking lever. Important is that when the wastewater pipes return to service that the flap is unlocked. DIN EN 12056 and DIN EN 13564 should be followed which regulated the drainage of building and use of backwater valves.

1.2 Application Controfix®

The KESSEL Controfix® serves as the body housing for all KESSEL Staufix® and Pumpfix series backwater valves. The following installation instructions should be heeded. Since the KESSEL Controfix® serves as a cleanout or access to the drainage piping, the Controfix® does not contain any backwater flaps and thus does not offer any protection against backwater. Upgrade packages are available that can be used to upgrade the Controfix® to any KESSEL Staufix® or Pumpfix backwater valves.

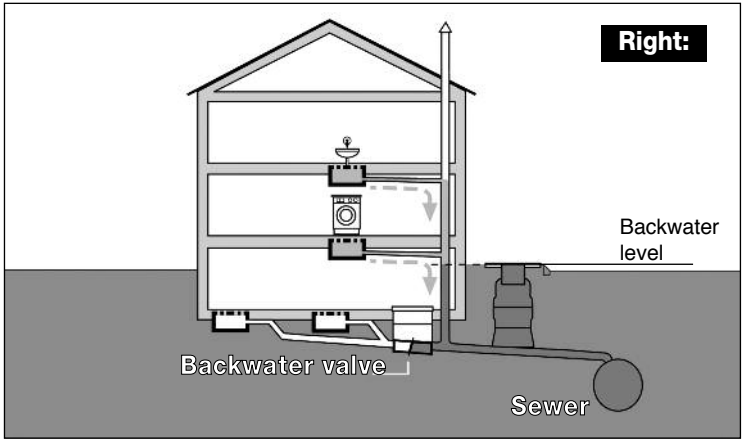
1.3 Contents of Delivery

The Staufix® SWA delivery consists of a body / housing with cover including the emergency closure lever (closure lever not included with a Controfix®), and installation and operating manual (Article Number 010-841) and a see-thru test funnel used for testing the valve after installation (test funnel not included with a Controfix®).

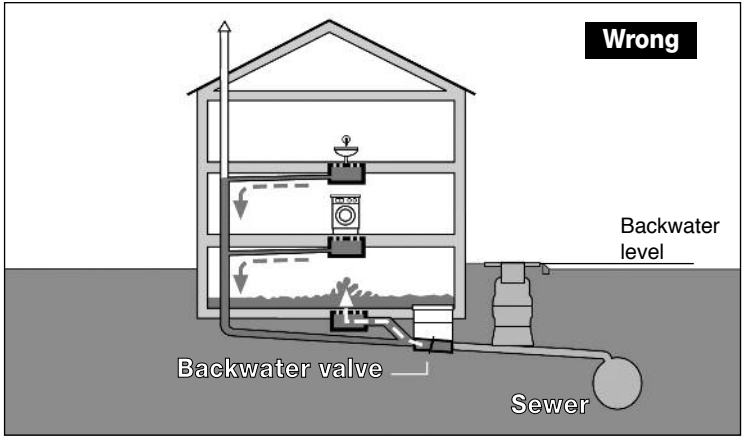
General instructions for installation of backwater valves

According to DIN EN 12056 it is not allowed to connect all drainage fixtures from a building (including those located above the backwater level – ground level) through a backwater valve. The reason being that when the backwater flap is in the closed position due to backwater / flooding no wastewater will be able to flow through the backwater valve meaning that the building's own wastewater will flood out of the lowest drainage fixture connected (normally in the basement) to the backwater valve.

Correct installation of a backwater valve



Incorrect installation of a backwater valve



DIN EN 12056 specifically states that only drainage fixtures below the backwater level may be connected to a backwater valve. All drainage fixtures above the backwater level should be drained through a separate pipe directly into the sewer (not through the backwater valve). This means that the home / building must be equipped with separate drainage pipes. A building's wastewater from above the backwater level (above ground level) can drain freely into the sewer at all times. During backwater the higher head / pressure of wastewater above the backwater level will force its way into the surcharged sewer and will not flood the basement / lower levels. Rainwater drainage pipes must not

be connected to a backwater valve.

Please note:

DIN EN 12056 requirements should be closely followed during the planning and installing of drainage pipes! Vertical drainage pipes connected to a backwater valve should not be connect directly in front of the backwater valve but should be connected at least 1 meter before the backwater valve – this is the so called 'wastewater calming' area. A backwater valves should also be installed so that access to the valve for service, maintenance or repair is possible.

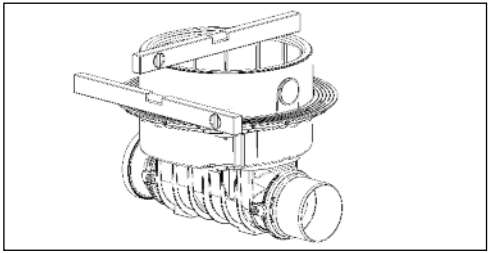
CAUTION: Make sure that the backwater valve is installed in the proper direction and is not installed backwards. KESSEL backwater valves are equipped with flow direction arrows to make sure that the valve is installed in the proper direction.

2.1 Concrete slab installation of a KESSEL-*Staufix® SWA* (Nr. 73100.10 S/X, 73125.10 S/X, 73150.10 S/X, 73200.10 S/X). This information is also valid for the installation of the Controlfix® . The Staufix® SWA body should be installed perfectly horizontal (please see illustration 1). The included gasket should be placed into the recessed area of the housing (as shown in illustration 2) and then the upper portion of this gasket should be lubricated. The included upper section can then be inserted into the housing as seen in illustration 3. After installation inspect the gasket to make sure it has been installed properly.

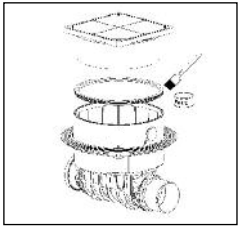
CAUTION:

In the case that a shallow installation is required in a concrete floor slab it may be necessary to shorten the upper section which can be done by sawing off the required lower portion of the upper section. The maximum depth of groundwater the concrete slab Staufix® should be installed in is 2 meters.

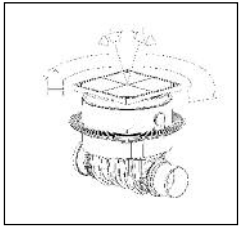
It is recommended that a conduit pipe is laid and connected to the Staufix® SWA body in the case that the system is upgraded at a later date which would require that a power cable is connected to this system.



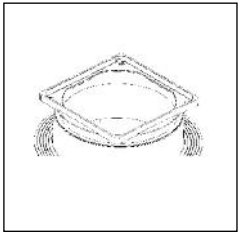
Illustr. 1



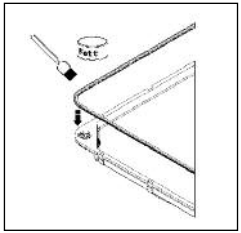
Illustr. 2



Illustr. 3



Illustr. 4



Illustr. 5

KESSEL

The second gasket must be inserted in the cover. Important is that the sealing lip and centering tip are pointing up. The centering tip is to be inserted in the appropriate recessed area as seen in illustration 5. During installation the valve should remain clean and it should be assured that no foreign objects such as trash or debris are in the valve.

Recessed cover for on-site tiling (maximum tile height including tile adhesive – 15mm)

The recessed cover (series X) allows the flooring material (tile for example) to also be installed in the recessed cover so that the finished cover matches the flooring surface. If tiles will be placed into the recessed cover it is important that the proper adhesive material is used and the following instructions are followed:

Tiles

a) The inner surface of the recessed cover should be coated with a bonding material which sticks to ABS (such as PCI base coat 303). After this surface coat has properly dried the tile surface can now be laid into the recessed upper section by using a silicon adhesive. This method is ideal for thinner tiles since the remaining height can be built up with the tile mortar.

b) Installing tiles with PCI-Silcoferm S (self adhering silicone). This method is ideal for thicker tiles since a thinner adhesive surface is used.

Tiling with natural stone such as granite, marble or agglomarmor

a) The inner surface of the recessed cover should be coated with a boding material which sticks to ABS (such as PCI base coat 303). The natural stone surface can then be laid into the covers using an appropriate adhesive (for example PCI-Carralit)

b) Installing a natural stone surface a with a special silicon such as PCI-Carraferm. Follow the same instructions as in the 'Tiles' section above.

2.2 Extended Depth Installation (Nr. 83071)

If the Staufix® SWA is to be installed in an high groundwater or high earth moisture area then the instructions in Section 2.4 must be followed. Depending on the required depth of installation, either one or two of the KESSEL extension sections can be used. Connection gaskets are supplied with the 83071 and should be properly lubricated as stated previously. In order to reach the properly installation height when using extension section(s) it may be required to shorted the top upper section.

Caution! Using 3 or more extension sections does not allow proper access to the valve for service or repair and is not recommended.

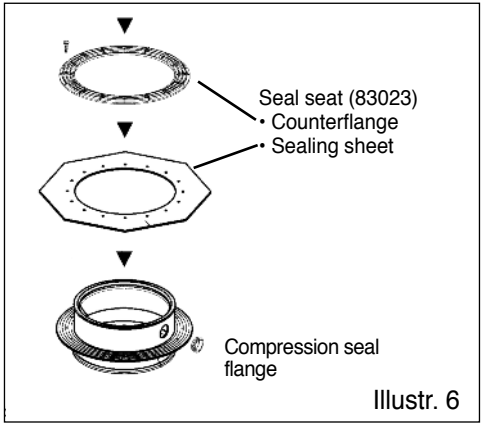
2.3 Installation in Exposed Pipes (Nr. 73100.10, 73125.10, 73150.10, 73200.10)

The Staufix® for exposed pipe installation is supplied with a protective cover to prevent dust and debris of entering the system and to also help prevent any type of damage to the system. This protected cover is not water tight. To remove the protective cover simple lift both clips on one side of the cover Before the black lower part of the protective hood is dismantled, the feed and drain covers must be removed.

2.4 Installation in high groundwater / earth moisture areas

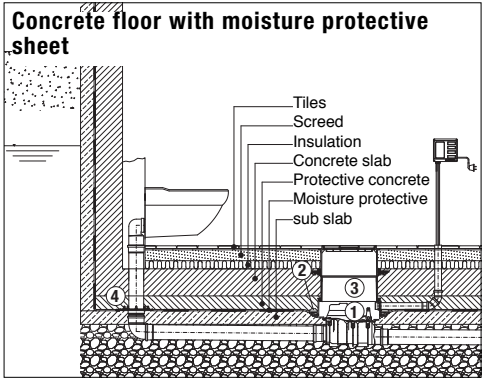
In the case that the Staufix® SWA for concrete slab installation is to be installed in a floor slab which will be protected against

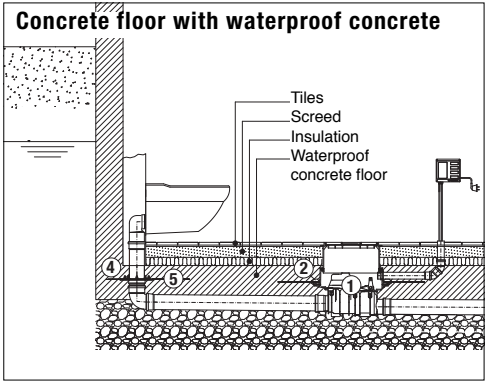
groundwater or earth moisture – sealing gasket set 83023 must be used (accessory). If the concrete slab will be equipped with a membrane or sheet – this sheet is to be connected to the Staufix® SWA body with the counter flange supplied with the 83023. In the case that a water proof concrete is being used then the heavy duty Kautschuk seal (included with the 83023) is inserted and then fixed tight with the counter flange. Please install the Kautschuk flange properly so that the pre-drillled holes in the Kautschuk seal match up with the screw holes of the counter flange. (see illustration 6). In the case that the water tight slab barrier is penetrated by drainage pipes or conduit pipes to the SWA, it should be assured that these penetration are also water / moisture tight.



Illustr. 6

Installation diagram (example *Pumpfix®* F)





① *KESSEL-Pumpfix® F, Staufix® FKA, Staufix® SWA, Controlfix*
② Groundwater protection set (83023)
③ Extension section (83071)
④ DN 100 intermediate section with stainless steel counter flange (27198)
⑤ Elastomeric sealing barrer (27159)

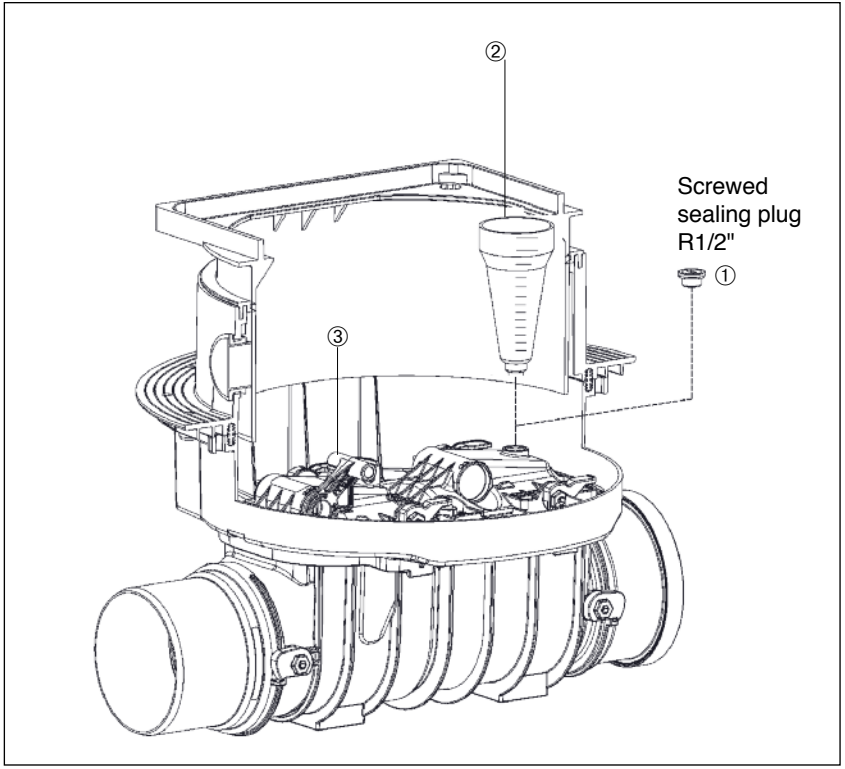
Installation with extension section Article Number 83071

The height of the groundwater sealing flange can be adjusted on-site if using the 83071 extension section. No more than 2 extension sections should be used to assure proper access to the backwater valve for service or repair. It may be required that the upper section is shortened to meet on-site installation heights / requirements.

3. Commissioning

Function / Sealing test according to DIN EN 13564

Manually lock the outlet side backwater flap with the manual closure lever (number 3 on illustration). Unscrew the red ½ inch test plug (1) on the cover and connect the supplied see-thru test funnel (2). Add clear water into the funnel until the water level inside the funnel reached the 10cm mark (this may require significant filling of water since the Staufix® SWA body must first be completely filled with water before the filter level is reached). Over a 10 minute period, observe the water level inside the see-thru funnel. If the water level decreases, refill to the 10cm mark and record how much water is required to keep the water level at 10cm. If no more than 500ml of water was required to keep the water level at the 10cm mark during the 10 minute test then the valve is considered tight.



4. Inspection and Maintenance

4.1 Inspection

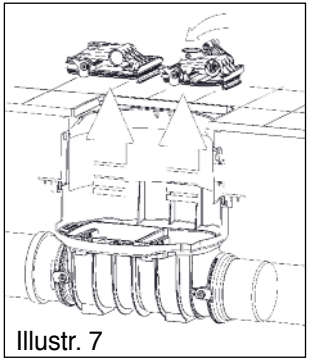
The backwater valve should be checked on a monthly basis by the owner or a representative of the owner. The manual closure lever should be shut, locked and re-opened multiple times. Please make sure that after the inspection that manual closure lever is in the Open position.

4.2 Maintenance (Illustrations 7-9)

The Inspection and Maintenance card included with this product should be kept in the immediate vicinity of the Staufix® SWA (DIN 1986-3)

Attention:

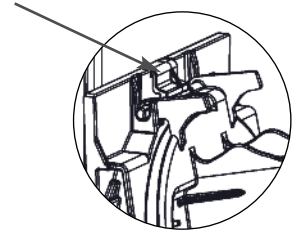
- **The Staufix® SWA guarantee will become void if backwater valve is not maintained and serviced according to the manual and the appropriate norms / regulations!**
- **Not properly maintaining and servicing this product could limit insurance claims based on this product!**

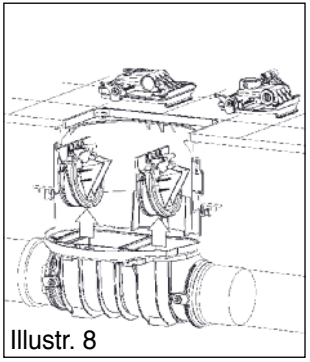


Illustr. 7

a) Close and lock the manual closure lever
b) Remove cover

Flap holder (d)

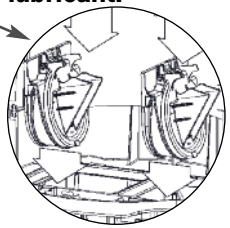


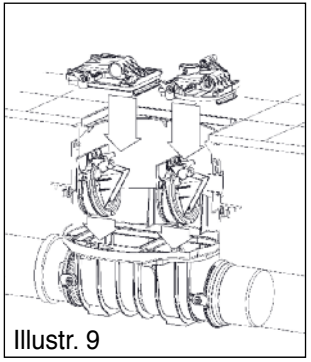


Illustr. 8

a) Remove flap and flap housing
b) Clean all parts
c) Check condition of gaskets / seals

Apply lubricant!





Illustr. 9

a) Lubricate the flap housing gasket as well as the closure lever.
b) Replace flap housing in the proper location (guide sleeves)
c) Insure covers are replaced properly – 4.2.1 (see page 12)
d) Check to insure flap housing is securely in place
e) Conduct function / sealing test as described in 3.3

4. Inspection and Maintenance

The backwater needs to be checked every six months at a minimum by a qualified and licensed service technician. During the inspection no wastewater should pass through the backwater valve.

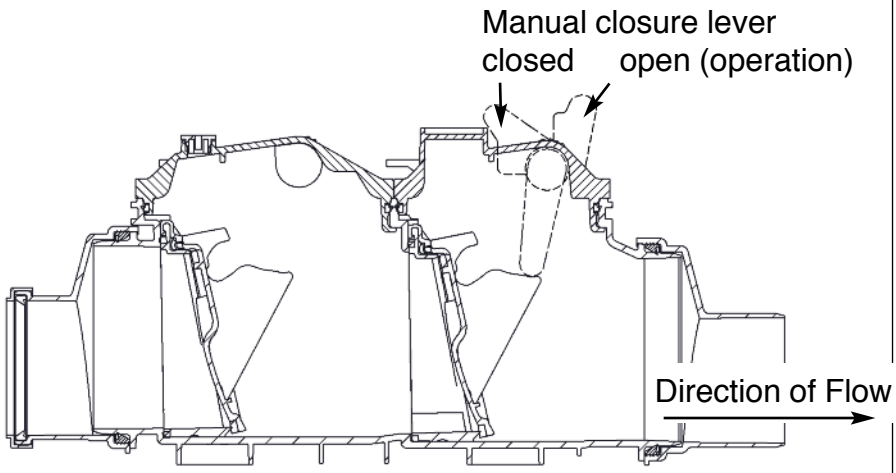
The following should take place during this inspection:

① Any debris or build up should be removed from the parts of the body (thorough cleaning)

② The condition of gaskets / seals and the surfaces they come in contact with should be inspected – if required the gasket / seal should be replaced (see illustrations 7 to 9)

③ Check for proper movement of the two flaps as well as the manual closure lever – lubricate if necessary

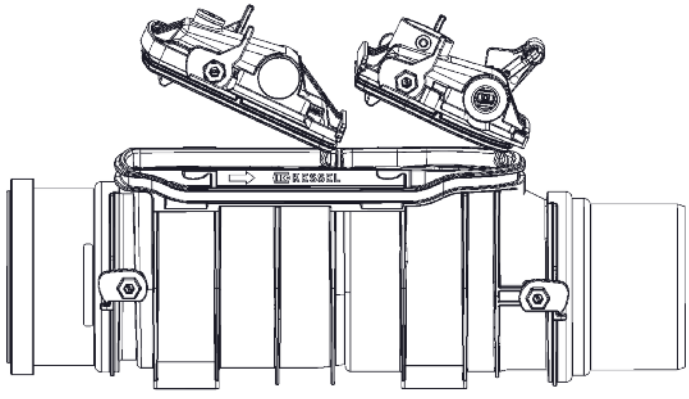
④ Check to make sure the system is water tight and in proper operating condition by performing the function / sealing test (see Chapter 3)



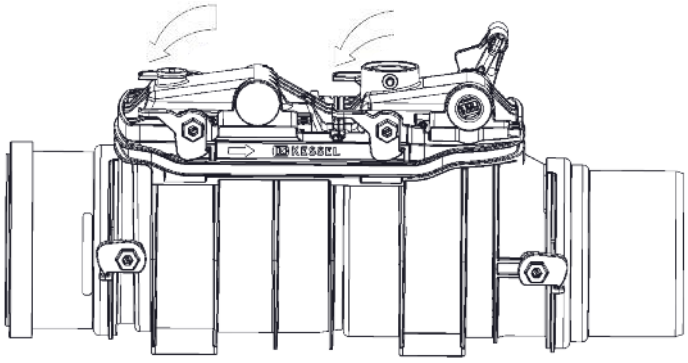
Illustr. 10

4.2.1 Assembly of both covers
(see Illustrations 11 and 12)

Insert cover housing at an angle as shown and then push other side down. Lock cover in place with the finger clips.



Illustr. 11



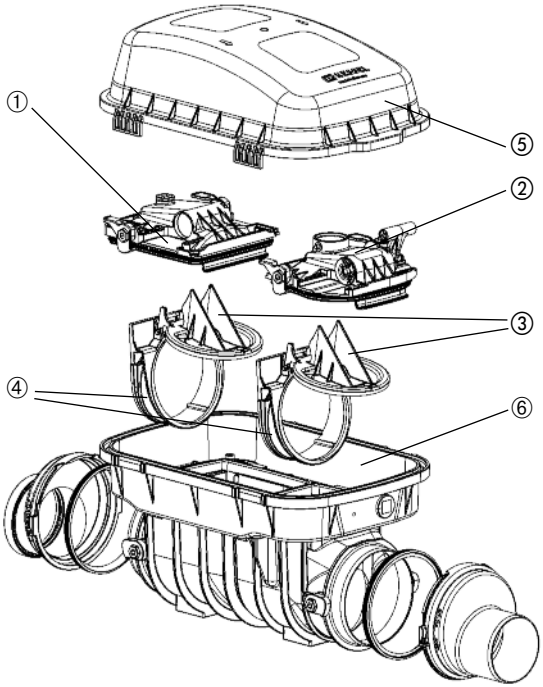
All 4 cover closure clips in the locked position

Illustr. 12

5. Replacement Parts

Staufix® SWA for exposed pipe installations

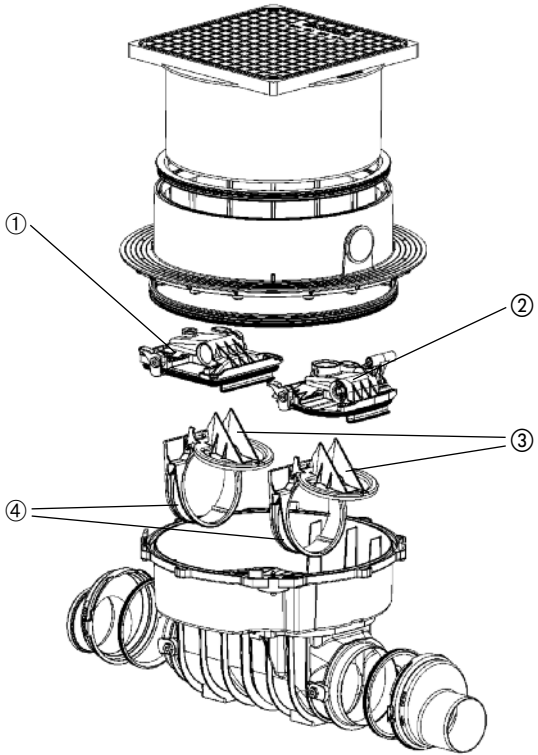
Description	Art.-Nr.
① SWA cover (inlet side)	80013
② SWA cover (outlet side)	80014
③ Backwater flaps	80033
④ Housing for backwater flap	80034
⑤ Protective cover	83031
⑥ Transition section	83032
Test funnel	70214
Gasket set (for cover, inlet and outlet)	70318



5. Replacement Parts

Staufix® SWA for concrete slab installations

Description	Art.-Nr.
① SWA cover (inlet side)	80013
② SWA cover (outlet side)	80014
③ Backwater flaps	80033
④ Housing for backwater flap	80034
Gasket set (for cover, inlet and outlet)	70318



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6. Warranty

1. In the case that a KESSEL product is defective, KESSEL has the option of repairing or replacing the product. If the product remains defective after the second attempt to repair or replace the product or it is economically unfeasible to repair or replace the product, the customer has the right to cancel the order / contract or reduce payment accordingly. KESSEL must be notified immediately in writing of defects in a product. In the case that the defect is not visible or difficult to detect, KESSEL must be notified immediately in writing of the defect as soon as it is discovered. If the product is repaired or replaced, the newly repaired or replaced product shall receive a new warranty identical to that which the original (defective) product was granted. The term defective product refers only to the product or part needing repair or replacement and not necessarily to the entire product or unit. KESSEL products are warranted for a period of 24 month. This warranty period begins on the day the product is shipped form KESSEL to its customer. The warranty only applies to newly manufactured products. Additional information can be found in section 377 of the HGB.
   In addition to the standard warranty, KESSEL offers an additional 20 year warranty on the polymer bodies of class I / II fuel separators, grease separators, inspection chambers, wastewater treatment systems and rainwater storage tanks. This additional warranty applies to the watertightness, usability and structural soundness of the product.
   A requirement of this additional warranty is that the product is properly installed and operated in accordance with the valid installation and user's manual as well as the corresponding norms / regulations.

2. Wear and tear on a product will not be considered a defect. Problems with products resulting from improper installation, handling or maintenance will also be considered a defect.

   Note: Only the manufacturer may open sealed components or screw connections. Otherwise, the warranty may become null and void

01.06.2010

CE

KESSEL

EU-KONFORMITÄTSERKLÄRUNG
EC declaration of conformity/ Déclaration CE de conformité

Nach der Maschinenrichtlinie 98/37/EG, der Niederspannungsrichtlinie 73/23/EWG, Richtlinie der elektromagnetischen Verträglichkeit 89/336/EWG und Richtlinie für Druckgeräte 97/23/CEE./
According to the Machine Guidelines 98/37/EC, the Low Voltage Guidelines 73/23/EEC, Electromagnetism Guidelines 89/336/EEC and the Pressure System Guidelines 97/23/CEE./
Selon les directives mécaniques 98/37/EG, les directives de basse tension 73/23 EWG, les directives pour la compatibilité électromagnétique 89/336EWG et les directives pour appareil à pression 97/23/CEE

erklären wir, / we declare, / nous déclarons,

KESSEL AG
Bahnhofstraße 31
D-85101 Lenting

dass das Produkt/ that the product/ que le produit

KESSEL- Rückstaupumpanlage Pumpfix® F
Für fäkalienhaltiges und fäkalienfreies Abwasser
28100, 28125, 28150, 28200 (S/X)
24100, 24125, 24150, 24200 (S/X)

KESSEL Pumpfix® F Backwater Valve
with integrated sewage pump for wastewater with or without sewage

Poste de pompage Pumpfix® F KESSEL
Protection anti-retour pour les eaux grises et les eaux vannes

den folgenden Normen entspricht:/ is in agreement with/ est en accord avec:

EN 12056, EN 50081, EN 50082, VDE 0700
Z-53.2-388
Die Durchflussmengen für DN 200 dürfen maximal den Mengen für DN 150 entsprechen.
Flow volumes for DN 200 backwater valves must not exceed the flow volume of a DN 150 valve.
Le volume en débit pour du DN 200 (Ø 200mm) doit être au maximum au débit du DN 150 (Ø 160mm).

Zur Kennzeichnung der Übereinstimmung der Produkte ist auf dem Typenschild das Zeichen der Richtlinie 93/68/EWG angebracht./ The 93/68/EEC code mark should be located on the ID plate on the product./ Le marquage et l´indentification du produit figurent sur la plaquette d´identification selon les directives 93/68 EWG.

Lenting, den 18.2.2011

M. Rinckens
Leiter Innovationsmanagement / Dokumentationsverantwortlicher
Innovation Management Manager / Responsible for Documentation
Responsable du management pour innovation et de la documentation

E. Thiemt
Vorstand
Managing Board
Conseil d´administration

Prüfstelle/ Accredited Laboratory/ Bureau de vérification:
LGA QualiTest GmbH, TÜV Rheinland Group, Dreikronenstraße 31, D-97082 Würzburg

Notice

8. Commissioning Protocol for installer

Type description * _____

KESSEL order number * _____

Date of manufacture * _____
(* according to type plate/invoice)

Object description / system operator _____

Planner _____

Adress / Telephone _____

Planner _____

Adress / Telephone _____

Installation company involved _____

Adress / Telephone _____

Person authorised to perform the acceptance _____

Adress / Telephone _____

Person responsible for handover _____

Other remarks _____

The initial installation and instruction listed was carried out in the presence of the person authorised to perform the acceptance and the system operator.

_____	_____	_____
Place, date	Signature of authorised person	Signature of system operator

KESSEL

Notice

9. Commissioning Protocol for installion company

Handover certificate (copy for the company carrying out the installation)

❑ The initial operation and instruction was carried out in the presence of the person authorised to perform the acceptance and the system operator.

❑ The system operator/person authorised to perform the acceptance was informed about the obligation to service the product according to the enclosed operating instructions.

❑ Initial operation and instruction were not carried out.

The client/ person responsible for initial operation was handed the following components and/or product components

Initial operation and instruction is being carried out by (company, address, contact, phone)

The exact coordination of the dates for initial operation/instruction is being carried out by the system operator and person responsible for initial operation.

Place, date	Signature of person authorised to perform acceptance	Signature of system operator	Signature of the company carrying out the installation work

Page heraustrennen (zum Verbleib beim einbauenden Unternehmen)

- ❑ Backwater protection
- ❑ Lifting Stations and pumps
- ❑ Drains and shower channels
- ❑ Separators
  - -Grease Separators
  - -Oil-/Fuel-/Coalescence Separators
  - -Starch Separators
  - -Sediment Separators
- ❑ Septic Systems
- ❑ Inspection Chambers
- ❑ Rainwater Management Systems

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